

macrosporic sculpture of the spore wall as seen in the thin sections prepared by the methods described above. Moreover their algal nature appears quite excluded by the fact that highly modified remains of wood have been found intermingled with the supposed Algae. It is not conceivable that delicate algal structures should have been preserved by the hypothetical bituminous matrix, while the much more resistant fragments of wood, should have suffered carbonification. The supposed Algae so far studied in this connection belong to the genera *Thylax*, *Pila* and *Reinschia*.

It seems highly probable as the result of these observations, that the bituminous matter found in Boghead and similar coals, as well as in oil-shales, etc., is rather a product of the modification of the natural waxy or cutinoid infiltration of the outer coats of innumerable spores (microspores as well as macrospores), than the product of animal or algal decay. The results here indicated seem further to overthrow the sapropelic or gelosic hypothesis of the formation of certain coals, and of petroleum proposed in Europe and to a certain extent adopted in this country.

PHANEROGAMIC LABORATORIES OF HARVARD UNIVERSITY,
9th March, 1909.

OCCURRENCE OF THE SKUNK CABBAGE IN AN UNUSUAL PLACE.

WILLIAM BREWSTER.

THE Skunk Cabbage is rarely met with, I believe, in other than low-lying and more or less swampy localities. At Concord, Massachusetts, however, there is a solitary plant of this species which has not only existed, but positively flourished, for a number of years, in a somewhat elevated and exceptionally dry situation on Ball's Hill. This long, narrow, gently curving ridge is of glacial origin and composed almost wholly of fine yellowish sand and coarse reddish gravel. It is everywhere densely wooded, chiefly with second-growth oaks intermingled with white and pitch pines. Beneath these trees the surface soil, although somewhat enriched with leaf mould, is so gen-

erally thin and sterile that it supports but little herbaceous vegetation especially on the south side of the hill which is very steep and not perfectly screened by the trees from the scorching rays of the midsummer sun. Yet it is on this very southern slope and about midway between the base and summit of the hill (which has an elevation of some seventy feet) that the Skunk Cabbage grows, not, however, in the ground but in a crevice at the foot of a white oak of medium size. Here it has found conditions evidently congenial and perhaps in some respects not unlike those which obtain in swamps; for the cavity is, in effect, a deep, narrow-mouthed, wooden bowl which receives and retains the rain water that falls directly into it and, in addition, very much of that which drives against the trunk of the tree and trickles downward towards its base. Owing to this abundant supply of moisture the soil which fills the bowl and which is made up partly of decayed wood and partly of the remains of disintegrated leaves, is almost always moist and frequently of the consistency of semi-liquid mud.

When I first noticed the Skunk Cabbage in midsummer, some twelve or fifteen years ago, it must have been very young for its light green leaves were then no longer than those of our common red clover. It has since increased in stature steadily, if somewhat slowly, until it has become a well-grown and vigorous-looking plant. As nearly as I have been able to ascertain, however, it has not bloomed as yet. Perhaps it will not live to do so, for gypsy and brown-tailed moths are attacking the trees that shelter it and the entire hillside is likely to be stripped of foliage in the course of the next two or three years.

CAMBRIDGE, MASSACHUSETTS.

CRYPTOGRAMMA STELLERI IN NEW HAMPSHIRE.—It may be of interest to the readers of RHODORA to have put on record the finding of *Cryptogramma Stelleri* (Gmel.) Prantl in northern New Hampshire. On 16 July, 1907, Mr. A. H. Moore and I discovered a good-sized station of this fern on shaded dryish cliffs in the town of Colebrook. I should be interested to know whether it has been previously found in New Hampshire.—ARTHUR STANLEY PEASE, Cambridge, Massachusetts.

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